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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/736,610	12/17/2003	Takehisa Mori	018961-066	4081

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EXAMINER

DEAK, LESLIE R

ART UNIT	PAPER NUMBER
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3761

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/10/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/736,610

Applicant(s)

MORI ET AL.

Examiner

Leslie R. Deak

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6, 8, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by US 6,074,180 to Khanwilkar et al.

In the specification and figures, Khanwilkar discloses the apparatus as claimed by applicant. With regard to claims 1, 2, Khanwilkar discloses a centrifugal pump apparatus 10 that may be used to pump blood comprising a housing 12/14 with inlet 19/20 and outlet 15/16. The housing contains an impeller 1 contained within the housing in a pump space 27 a/b/c/d. Rotation of impeller 21 centrifugally transports fluid from the inlet to the outlet (see columns 10-11). The pump 10 comprises a motor 40 that corresponds to applicant's torque generation section, since the motor powers magnets within the motor 40 to rotate impeller 21 (see FIGS 3, 8). The pump comprises a return chamber or hydronamic pressure groove 34 through which blood flows on the motor or torque generation side 40.

The impeller 21 is suspended within the pump housing (see column 12, lines 30-55) by action of permanent magnets 52, 54, 56, 57, 58, and 59—configured in a double ring configuration—that interact with electromagnets 44, 46, 48, and 50. The permanent magnets and electromagnets work together to suspend the impeller 21 within the pump

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housing by attracting the impeller in opposite directions according to a control mechanism (see column 12, line 39 to column 13, line 53). The controller provides electric signals that provide position, velocity, and rotation signals to the impeller, functioning as claimed by applicant. Applicant's limitations with regard to the action of the electromagnets, permanent magnets, and controller are held by the examiner to be a functional recitation of the performance of the claimed device. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. See MPEP 2114. In the instant case, it is the position of the examiner that the pump apparatus disclosed by Khanwilkar discloses all the structural limitations claimed by applicant, and the controller disclosed by Khanwilkar is capable of operating to suspend the impeller in the housing as claimed by applicant, thereby meeting the limitations of the claims.

With regard to claim 3, Khanwilkar discloses that the permanent magnets are arranged in two sets in a double-ring configuration, meeting the limitations of applicant's claim (see column 12, line 54 to column 13, line 20).

With regard to claim 4, Khanwilkar discloses that the motor or torque generation section 40 comprises stator coils that actuate the permanent magnets in the impeller, meeting the limitations of the claim (see column 13, line 58 to column 14, line 2).

With regard to claims 5, 6, 8, and 9, applicant's recitations with regard to the action of the controller are held by the examiner to be a functional recitation of the performance of the claimed device. It has been held that a recitation with respect to the

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manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. See MPEP 2114. In the instant case, it is the position of the examiner that the pump apparatus disclosed by Khanwilkar discloses all the structural limitations claimed by applicant, and the controller disclosed by Khanwilkar is capable of operating to suspend and rotate the impeller in the housing as claimed by applicant, thereby meeting the limitations of the claims (see column 13, lines 43-53).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,074,180 to Khanwilkar et al.

In the specification and figures, Khanwilkar discloses the apparatus substantially as claimed by applicant with the exception of the radius of the hydrodynamic pressure groove. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the housing and the impeller disclosed by Khanwilkar to allow for a hydrodynamic pressure groove of the claimed dimensions, since it has been held that where the general conditions of a claim are disclosed in the prior art,

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discovering the optimum or workable ranges (such as "not less than 0.05mm") involves only routine skill in the art. See MPEP § 2144.05.

Response to Arguments

5. Applicant's amendment and arguments, filed 5 September 2006 with respect to the rejections of the pending claims over US 6,155,969 to Schima have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of US 6,074,180 to Khanwilkar et al. Accordingly, Applicant's arguments with respect to the pending claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

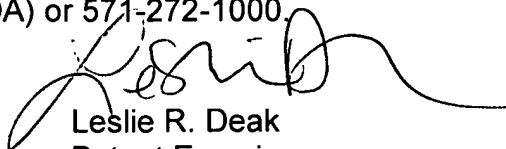
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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leslie R. Deak whose telephone number is 571-272-4943. The examiner can normally be reached on M-F 7:30-5:00, every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tanya Zalukaeva can be reached on 571-272-1115. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Leslie R. Deak
Patent Examiner
Art Unit 3761
3 April 2007

TATYANA ZALUKAEVA
SUPERVISORY PRIMARY EXAMINER

